



**Air Quality Permitting
Technical Memorandum**

Permit to Construct No. 777-00246

DIAMOND T PAVING, PORTABLE

Prepared by:

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Environmental Quality Management, Inc.**

Project No. P-000401

Date Prepared:

February 6, 2002

Permit Status:

FINAL

PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200, *Rules for the Control of Air Pollution in Idaho* for issuing permits to construct (PTC).

PROJECT DESCRIPTION

Diamond T Paving is proposing to amend PTC #777-00246 issued on February 25, 2001, for a portable hot-mix asphalt (HMA) plant to be operated in both attainment and nonattainment areas within the state of Idaho. The application for a modification was made to correct for actual stack parameters, and a request was made that the source be removed from New Source Performance Standard (NSPS) list because the plant was manufactured in 1970, prior to the issuance of the NSPS regulations for asphalt plants. The equipment was recently purchased by Diamond T Paving, but was not modified or reconstructed.

SUMMARY OF EVENTS

On December 11, 2001, the Idaho Department of Environmental Quality (DEQ) received an application from Diamond T Paving for modification to PTC #777-00246 issued on February 25, 2001. On February 28, 2002, the application was determined complete.

DISCUSSION

1. Process Description

The facility is a portable, continuous-mix, HMA asphalt plant used for the production of asphaltic concrete. The dryer burner is permitted to be fired on distillate fuel oil only. The standard PTC requested will allow this HMA facility to collocate and simultaneously operate with one other portable plant (i.e., rock crusher, HMA plant, and/or concrete batch plant) in attainment areas. It is important to note that during collocated operations, this HMA plant becomes part of a single, larger source engaged in the production of either asphalt, concrete and/or aggregate, depending upon which type of portable plant the hot-mix plant is collocated with. While collocated, the two portable plants are now considered to be one source, and the emissions of this single source is the sum of the emissions from the two portable plants. This single, larger source must comply with all applicable federal, state, and local requirements. To maintain compliance, specific requirements and limitations have been included in the standard PTC for this HMA plant for collocated operations. As described in the following sections of this technical memorandum, specific conservative assumptions and calculations were made to determine these standard PTC collocation requirements. For this reason, the permit for the other portable plant with which this HMA plant will collocate must also contain specific collocation requirements based on the same conservative assumptions and calculations used in this standard PTC.

2. Equipment Listing

This standard permit analysis includes the following equipment as submitted in the application:

2.1 Portable HMA Plant

Manufacturer/Model:	Barber Green/840
Type:	Continuous Mix
Throughput capacity:	50 Tons per hour (T/hr)
Burner fuel type:	Diesel No. 2
Dryer heat input:	19.5 million British thermal units per hour (MMBtu/hr)

2.2 Air Pollution Control Device

Type:	Wet Scrubber
Manufacturer:	Comes with the HMA Plant
Model:	3CN53

2.3 HMA Stack Information

Stack height:	22 feet (ft)
Stack diameter:	5 ft
Exhaust gas flow rate:	22,965 actual cubic feet per minute
Stack exhaust temp:	112.1°F

3. Emission Estimates

Emission estimates for this HMA facility were calculated using a Lotus spreadsheet and emission factors obtained from AP-42, Section 11.1, 1/95 edition. For purposes of maximum flexibility, the spreadsheet calculates the potential to emit (PTE) based on the worst-case emission factor of all possible fuels to be used at the hot-mix plant (diesel fuel oils, propane, and natural gas). The following air pollutant emissions are calculated by the spreadsheet: particulate matter (PM), particulate matter with an aerodynamic diameter of less than or equal to a nominal 10 micrometers (PM₁₀), oxides of nitrogen (NO_x), sulfur dioxide (SO₂), and carbon monoxide (CO). In calculating the PTE for each pollutant, the spreadsheet solves for the most-limiting pollutant that will give the facility a PTE of less than 100 tons per any consecutive 12-month period (T/yr) (i.e., 99 T/yr). In addition, allowable operational limits for the facility, which corresponds to the PTE <100 T/yr, are given as part of the spreadsheet output. A copy of the spreadsheet showing all calculations and results is presented as Appendix A of this memo.

For collocated operations, a conservative approach is taken by limiting the emissions of each of the collocated units to half of the levels allowed when operating alone. Therefore, the combined emissions of the two collocated sources will be within the allowable levels. See the information below for a more detailed description. This approach is designed to result in acceptable throughput limits for most collocation situations. In cases where the throughput limits are too restrictive, a site-specific analysis and permit amendment may be completed.

In summary, the emission estimates for this facility assume 50 T/hr throughput to a continuous-mix HMA plant, one diesel-fired dryer, and fugitive dust emissions from specified sources (see the spreadsheet). The most-limiting pollutant, which gives the facility a PTE of 99 T/hr, is PM₁₀.

3.1 Collocated Operations in Attainment Areas

Standard PTCs will only allow collocation with one other portable source (i.e., rock-crushing plant, HMA plant, or concrete batch plant) that has also received a standard PTC, which specifically allows collocation. When a combination of one portable HMA unit and one other portable unit are operated at a single location, the emissions of both units must be added together when determining PTE. Consistent with the approach taken for attainment area operations, the spreadsheet inherently limits the combined emissions of the two portable units to below certain triggering levels (i.e., Prevention of Significant Deterioration and Title V thresholds) by limiting the maximum throughput of each. For collocated operations, half of the attainment area triggering levels are used as limits for calculating throughput for each source. The HMA plant throughput is then established based on the most-limiting pollutant or pollutants (i.e., the pollutant whose emission rate is closest to 49.5 T/yr). For collocated attainment area operations, the most-limiting pollutant, which gives the HMA facility a PTE of 49.5 T/yr, is PM₁₀.

4. Modeling

Modeling of the asphalt plant stack emissions was conducted using an Environmental Protection Agency-approved SCREEN 3 computer-run model. The maximum one-hour impact from the dryer stack was calculated to be 31.12 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) using a 1 pound-per-hour (lb/hr) unity emission rate input to the model. The spreadsheet calculates the ambient impact for each air pollutant (PM, PM₁₀, NO_x, SO₂, and CO) based on the calculated pound-per-hour emission rate, averaging periods, and background concentrations. The spreadsheet solves for the most-limiting pollutant in attainment areas and gives appropriate operational limits, which protects the applicable National Ambient Air Quality Standard (NAAQS) as defined in IDAPA 58.01.01.577. In addition, the spreadsheet also calculates the most-limiting pollutant in nonattainment areas and gives operational limits to protect applicable significant contribution requirements as defined in IDAPA 58.01.01.006.89. All SCREEN modeling output files are presented as Appendix B of this memo. Spreadsheet impact calculations and results are presented as Appendix A.

For collocated operations in attainment areas, operation of the HMA plant and its generator (if used) are limited as needed so that the modeled impacts will be half of the available allowable ambient impact. Likewise for collocated operations, the modeled impacts of the other portable facility will also be limited to half of the available allowable ambient impact so that the combined emissions of the two collocated sources will remain within the NAAQS. Using the 24-hour NAAQS standard for PM₁₀ (attainment area) as an example, one half of the allowable available impact would be equal to $32 \mu\text{g}/\text{m}^3$, as follows:

$$32 \mu\text{g}/\text{m}^3 = 0.5 \times [150 \mu\text{g}/\text{m}^3 - 86 \mu\text{g}/\text{m}^3],$$

Where $150 \mu\text{g}/\text{m}^3$ is the 24-hour average standard and $86 \mu\text{g}/\text{m}^3$ is the conservative, statewide, 24-hour average background value. Therefore, operation of the HMA plant and its generator (if used) would be limited as needed, based on the specific ambient impact modeling, so that the modeled 24-hour concentration does not exceed $32 \mu\text{g}/\text{m}^3$ at or beyond the facility's property boundary. This approach is designed to result in acceptable operational limits for most collocation situations. In cases where these limits are too restrictive, a site-specific analysis and permit amendment may be completed. If a generator is used, the modeling estimates are included as Appendix B.

5. Facility Classification

HMA plants (including collocated operations producing asphalt, concrete, and aggregate) are not designated facilities, as defined in IDAPA 58.01.01.006.27. This facility is not a major facility as defined in IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. The Standard Industrial Classification code for this HMA facility is 2951. The AIRS facility classification for this facility is "SM" because allowable emissions are less than all thresholds for Tier I permits. The spreadsheet included as Appendix A automatically determines the facility classification.

6. Area Classification

The HMA facility is a portable source and may operate in both attainment and nonattainment areas throughout the state of Idaho.

7. Regulatory Review

The following rules and regulations were reviewed for this permit analysis:

IDAPA 58.01.01.201	Permit to Construct
IDAPA 58.01.01.202	Application Procedures
IDAPA 58.01.01.203	Permit Requirements for New and Modified Stationary Sources
IDAPA 58.01.01.209	Procedures for Issuing Permits
IDAPA 58.01.01.211	Conditions for Permits to Construct
IDAPA 58.01.01.212	Obligation to Comply
IDAPA 58.01.01.577	Ambient Air Quality Standards
IDAPA 58.01.01.625	Visible Emissions
IDAPA 58.01.01.650	Rules for Control of Fugitive Dust
IDAPA 58.01.01.725	Rules for Sulfur Content of Fuels
IDAPA 58.01.01.805	Rules for the Control of Hot-mix Asphalt Plants

8. Permit Requirements

8.1 Emission Limits

Emission limits for the asphalt dryer stack of 0.04 gr/dscf were retained from the original permit and new hourly limits (lb/hr) were calculated based upon the revised stack parameters.

8.2 Operating Requirements

The allowable throughputs increased as a result of the new asphalt dryer stack parameters.

9. Permit Coordination

This HMA facility is not a major facility as defined by IDAPA 16.01.01.006.55 and IDAPA 58.01.01.008.10, and it is not an NSPS-affected facility. Therefore, no Tier I operating permit is required.

10. AIRS Information

AIRS/AFS^a FACILITY-WIDE CLASSIFICATION^b DATA ENTRY FORM

AIR PROGRAM	SIP ^c	PSD ^d	NSPS ^e (Part 60)	NESHAP ^f (Part 61)	MACT ^g (Part 63)	TITLE V	AREA CLASSIFICATION A – Attainment U – Unclassifiable N – Nonattainment
POLLUTANT							
SO ₂ ^h	B						
No _x ⁱ	B						
CO ^j	B						
PM ₁₀ ^k	SM						
PT (Particulate) ^l	SM						
VOC ^m	B						
THAP (Total HAPs) ⁿ	NA						
			APPLICABLE SUBPART				

^a Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

^b AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 T/yr threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).

^c State Implementation Plan

^d Prevention of Significant Deterioration

^e New Source Performance Standards

^f National Emission Standards for Hazardous Air Pollutants

^g Maximum Achievable Control Technology

^h Sulfur Dioxide

ⁱ Nitrogen Oxides

^j Carbon Monoxide

^k Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers

^l Particulate Matter

^m Volatile Organic Compounds

ⁿ Hazardous Air Pollutants

FEES

The Diamond T Paving facility is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration fees are not applicable in accordance with IDAPA 58.01.01.527.

RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommends Diamond T Paving be issued modified PTC No. 777-00246 for the portable HMA facility. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

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cc: Stephen VanZandt, Twin Falls Regional Office
Sherry Davis, Technical Services OR
Kent Berry, EQM

APPENDIX A

INPUT SECTION - enter info in highlighted areas only

Company: Diamond T Paving
 Permit Engineer: EQM
 Date: 1/29/02
 Filename: Diamond T Paving PTC Calc.xls

Enter the HMA Plant Type: B (A = Batch Mix Hot Mix Asphalt Plant)
 (B = Drum Mix Hot Mix Asphalt Plant)

Dryer Fuel Type: B (A = Natural Gas-Fired Dryer)
 (B = Oil-Fired Dryer)

Enter Dryer Stack Flow Rate: 22,965 actual cubic feet per minute (acfm)
 Enter Dryer Stack Temperature: 112.1 temperature (°F)
 Enter Dryer Stack Moisture: 18.00 moisture wt % (Default 18 wt%)
 Enter Dryer Stack Pressure: 29.92 stack pressure (Default 29.92 "Hg)
 Calculated Corrected Flow Rate: 17,379 dry standard cubic feet per minute (dscfm)

Enter HMA Maximum Capacity: 50 Ton/hr (Asphalt Throughput)

Enter HMA Modeled Concentration: 31.12 µg/m³, (1-hr concentration @ 1 lb/hr)

Is a PM performance test required for this HMA plant? N Y or N (based on 40 CFR 60.90 Requirements)

Does Plant Require a Generator? N Y or N

SPREADSHEET DATA - information used by spreadsheet

State Wide Background Concentrations for Criteria Air Pollutants	State Wide Background Concentrations for Criteria Air Pollutants			
	1-hr	3-hr	8-hr	24-hr
PM-10				32.7
CO	11,400		5,130	86
NO _x				40
SO _x		543		144
23.5				

Parameters used in the Fugitive Emission Calculations

Mean Wind Speed (U) 10 mph
 Material Moisture Content (M) 2.5 %
 Particle Size Multiplier (K) 0.35 dimensionless
 Emission Factor¹
 PM-10 (<10 µm) 0.0020 lb/T
 PM¹ 0.0053 lb/T

Notes: ¹ EF = $k \cdot 0.0032 \cdot (U/S)^{1.3} / (M/Z)^{1.4}$
 Drop-Point Equation, Rating "A," AP-42, 5th Ed. p.13.2.4-3.
 Assumptions: Wind Speed = 10 mph; Moisture = 2.5%; and
 Aggregate = 94% of product.

FACILITY CLASSIFICATION INPUT

Enter Annual Emission Limit: 100 T/yr
 Note: Use 100 T/yr for Title V Limitation
 Use 250 T/yr for PSD Limitation
 For the standard HMA permit, use 100 T/yr.

PERMIT REQUIREMENTS SECTION - enforceable permit limits
AIRS Facility Classification: A2

Non-attainment Area		Attainment Area	
Allowable Emission Limits		Allowable Emission Limits	
HMA Dryer Stack:	NA T/yr	HMA Dryer Stack:	NA T/yr
Generator:	NA T/yr	Generator:	NA T/yr
HMA Plant Throughput Limits:	29,526 T/yr	HMA Plant Throughput Lim	377,937 T/yr

Collocated Attainment Areas		CO 1-hr Standard		O2 3-hr standard		O 8-hr Standard	
HMA Dryer Stack:	NA T/yr	minutes/1-hr	60.0	hr/3-hr	3.0	hr/8-hr	8.0

Allowable Emission Limits		Units	
HMA Dryer Stack:	NA lb/hr	NA T/yr	T/yr
Generator:	NA hr/day NA hr/year	NA T/yr	T/day T/yr
HMA Plant Throughput Limits:	518 T/day	188,969 T/yr	hr/year hr/day

INPUTS TO PERMIT TO CONSTRUCT (PTC)

Section B "Attainment Area When Not Collocated"	Value	Units
Section B.1.1 Facility Throughput Limits: Annual Throughput Limit	377,937	T/yr
Daily Throughput Limit	1,035.45	T/day
Annual Throughput Limit	377,937	T/yr
Section B.1.3 Generator Hours of Operation: Annual Hours of Operation	NA	hr/year
<<AND/OR>>		
Daily Hours of Operation	NA	hr/day
Section C "Attainment Area When Collocated"		
Section C.1.3 Facility Throughput Limits: Annual Throughput Limit	188,969	T/yr
<<OR>>		
Daily Throughput Limit	518	T/day
Annual Throughput Limit	188,969	T/yr
Section C.1.4 Generator Hours of Operation: Annual Hours of Operation	NA	hr/year
<<AND/OR>>		
Daily Hours of Operation	NA	hr/day
Section D "Nonattainment Area"		
Section D.1.1 Facility Throughput Limits: Annual Throughput Limit	29,526	T/yr
<<OR>>		
Daily Throughput Limit	81	T/day
Annual Throughput Limit	29,526	T/yr
Section D.1.3 Generator Hours of Operation: Annual Hours of Operation	NA	hr/year
<<AND/OR>>		
Daily Hours of Operation	NA	hr/day

DRYER EMISSION RATE CALCULATIONS

Pollutant	DRYER STACK		GENERATOR STACK	
	Emission Factor lb/ton	Emission Rate (Uncontrolled) lb/hr	Emission Rate (Uncontrolled) lb/hr	Emission Rate (Controlled) lb/hr
Total PM	19.00	950.00	N/A	0.00
Total PM-10	0.04	215.00	N/A	0.00
CO	0.036	1.80	N/A	0.00
NO _x	0.075	3.75	N/A	0.00
SO ₂	0.100	5.00	N/A	0.00

HMA emission factors for CO, NO_x, SO₂ and uncontrolled PM & PM-10 are from AP-42 Section 11.1. Controlled PM & PM-10 is from the NSPS 0.04 gr/dscf.

GENERATOR EMISSION RATE CALCULATIONS

Pollutant	DRYER STACK		GENERATOR STACK	
	Emission Factor lb/ton	Emission Rate (Uncontrolled) lb/hr	Emission Rate (Uncontrolled) lb/hr	Emission Rate (Controlled) lb/hr
Total PM	19.00	950.00	N/A	0.00
Total PM-10	0.04	215.00	N/A	0.00
CO	0.036	1.80	N/A	0.00
NO _x	0.075	3.75	N/A	0.00
SO ₂	0.100	5.00	N/A	0.00

Generator emission factors are from AP-42 Section 3.3 and 3.4.

MODELING ANALYSIS CALCULATIONS FOR ATTAINMENT AREAS

Pollutant	Allowable Impacts			Permitted Impacts			< 100 TPY Hours of Operation hr/year	< 100 TPY Calculated Emissions ton/year
	Hours of Operation hr/day	Hours of Operation hr/year	Other ***	Calculated 24-hr Impact µg/m ³	Calculated Annual Impact µg/m ³	Other ***		
PM	N/S	N/S		64.00	12.80		23.59	
PM-10	20.7	8,760		19.33	3.87		6.80	
CO *	N/S	N/S	1.0			56.02		
CO †			8.0			39.21		
NO _x	N/S	8,760			8.06		14.17	
SO ₂	24.0	8,760		53.71	10.74		18.90	
SO ₂ †			3.0			140.04		

MODELING ANALYSIS CALCULATIONS FOR NONATTAINMENT AREAS

Pollutant	Allowable Impacts			Permitted Impacts			< 100 TPY Hours of Operation hr/year	< 100 TPY Calculated Emissions ton/year
	Hours of Operation hr/day	Hours of Operation hr/year	Other ***	Calculated 24-hr Impact µg/m ³	Calculated Annual Impact µg/m ³	Other ***		
PM	N/S	N/S		5.00	1.00		1.84	
PM-10	1.6	591		1.51	0.30		0.53	
CO *	N/S	N/S	1.0			56.02		
CO †			8.0			7.93		
NO _x	N/S	8,760			0.63		1.11	
SO ₂	24.0	8,760		4.20	0.84		1.48	
SO ₂ †			3.0			75.52		

FUGITIVE EMISSION CALCULATIONS FOR ATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions (lb/hr)		
Loader -> Cold Aggregate Bin	0.25	0.09
Cold Aggregate Bin -> Conveyor	0.25	0.09
Conveyor -> Drum Dryer	0.25	0.09
Total Pre-Dryer Source Emissions	0.75	0.28
Post-Dryer Source Emissions		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions (lb/hr)	0.75	0.28
Total Uncontrolled Emissions (T/yr)	2.84	1.08
Total Controlled Emissions (lb/hr)	0.75	0.28
Total Controlled Emissions (T/yr)	2.84	1.08

Source: National Asphalt Pavement Association

* CO 1-hr Averaging Period

* CO 8-hr Averaging Period

* SO₂ 3-hr Averaging Period

FUGITIVE EMISSION CALCULATIONS FOR NONATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions (lb/hr)		
Loader -> Cold Aggregate Bin	0.25	0.09
Cold Aggregate Bin -> Conveyor	0.25	0.09
Conveyor -> Drum Dryer	0.25	0.09
Total Pre-Dryer Source Emissions	0.75	0.28
Post-Dryer Source Emissions 2		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions (lb/hr)	0.75	0.28
Total Uncontrolled Emissions (T/yr)	0.22	0.08
Total Controlled Emissions (lb/hr)	0.75	0.28
Total Controlled Emissions (T/yr)	0.22	0.08

SPREADSHEET SUMMARY - results of emission and modeling calcs for all pollutants

ATTAINMENT & UNCLASSIFIABLE AREAS		NONATTAINMENT AREAS	
Uncontrolled	Controlled	Dryer	Uncontrolled Controlled
3590.4 T/yr	22.5 T/yr	PM	280.5 T/yr 1.8 T/yr
812.6 T/yr	22.5 T/yr	PM-10	63.5 T/yr 1.8 T/yr
6.8 T/yr	6.8 T/yr	CO	0.5 T/yr 0.5 T/yr
14.2 T/yr	14.2 T/yr	NOx	1.1 T/yr 1.1 T/yr
18.9 T/yr	18.9 T/yr	SO ₂	1.5 T/yr 1.5 T/yr
Generator			
0.0 T/yr	0.0 T/yr	PM	0.0 T/yr 0.0 T/yr
0.0 T/yr	0.0 T/yr	PM-10	0.0 T/yr 0.0 T/yr
0.0 T/yr	0.0 T/yr	CO	0.0 T/yr 0.0 T/yr
0.0 T/yr	0.0 T/yr	NOx	0.0 T/yr 0.0 T/yr
0.0 T/yr	0.0 T/yr	SO ₂	0.0 T/yr 0.0 T/yr
Fugitives			
2.8 T/yr	2.8 T/yr	PM	0.2 T/yr 0.2 T/yr
1.1 T/yr	1.1 T/yr	PM-10	0.1 T/yr 0.1 T/yr
Total¹			
3593.2 T/yr	25.4 T/yr	PM	280.7 T/yr 2.0 T/yr
813.6 T/yr	23.6 T/yr	PM-10	63.6 T/yr 1.8 T/yr
6.8 T/yr	6.8 T/yr	CO	0.5 T/yr 0.5 T/yr
14.2 T/yr	14.2 T/yr	NOx	1.1 T/yr 1.1 T/yr
18.9 T/yr	18.9 T/yr	SO ₂	1.5 T/yr 1.5 T/yr
813.6 T/yr	23.6 T/yr	Title V PTE of PM-10	63.6 T/yr of PM-10
3593.2 T/yr	25.4 T/yr	Facility PTE of PM	280.7 T/yr of PM
Enforceable Limits - Attainment Areas			
20.7 hr/day	7,559 hr/yr	Enforceable Limits - Non-Attainment Areas	1.6 hr/day 591 hr/yr
Dryer Controlled Emission Rates			
6.0 lb/hr	22.5 T/yr	Dryer Controlled Emission Rates	6.0 lb/hr 1.8 T/yr
1.8 lb/hr	6.8 T/yr	CO	1.8 lb/hr 0.5 T/yr
3.8 lb/hr	14.2 T/yr	NOx	3.8 lb/hr 1.1 T/yr
5.0 lb/hr	18.9 T/yr	SO ₂	5.0 lb/hr 1.5 T/yr
Generator Controlled Emission Rates			
0.0 lb/hr	0.0 T/yr	Generator Controlled Emission Rates	0.0 lb/hr 0.0 T/yr
0.0 lb/hr	0.0 T/yr	CO	0.0 lb/hr 0.0 T/yr
0.0 lb/hr	0.0 T/yr	NOx	0.0 lb/hr 0.0 T/yr
0.0 lb/hr	0.0 T/yr	SO ₂	0.0 lb/hr 0.0 T/yr

u1 Total is the dryer, generator and fugitives added together for total PTE.

u2 Title V PTE summary does not account for PM, only PM-10.

Attainment Area - Collocated Units - Calculations						
Collocation Ambient Air Quality Standards - Calculations						
Pollutant	1-hr	3-hr	8-hr	24-hr	Annual (50% Attainment Hours)	
(1-hr, 3-hr, 8-hr, & 24-hr standards are cut in half for collocation)						
PM						
PM-10	14243.984		2395.7888	-32	2.25	
CO						
NO _x		238.46		56.79491162	25.97211837	
SO ₂					22.87949116	
TOC						
Background Concentrations - Attainment/Non-Classifiable Areas (ug/m3)						
Pollutant	1-hr	3-hr	8-hr	24-hr	Annual	
PM						
PM-10	11400		5130	86	32.7	
CO					40	
NO _x		543		144	23.5	
SO ₂						
TOC						

APPENDIX B

01/29/02
17:25:29

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Diamond T Paving - HMA Stack

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .126000
STACK HEIGHT (M) = 6.7056
STK INSIDE DIAM (M) = 1.5240
STK EXIT VELOCITY (M/S) = 5.9416
STK GAS EXIT TEMP (K) = 317.6500
AMBIENT AIR TEMP (K) = 293.0000
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = .0000
MIN HORIZ BLDG DIM (M) = .0000
MAX HORIZ BLDG DIM (M) = .0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 22965.000 (ACFM)

BUOY. FLUX = 2.625 M**4/S**3; MOM. FLUX = 18.907 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	1	1.0	1.0	320.0	50.89	1.79	1.75	NO
100.	28.33	4	15.0	15.0	4800.0	6.29	8.24	4.73	NO
200.	19.19	4	8.0	8.0	2560.0	9.92	15.64	8.64	NO
300.	14.20	4	5.0	5.0	1600.0	14.59	22.75	12.35	NO
400.	11.52	4	3.5	3.5	1120.0	19.33	29.67	15.69	NO
500.	10.20	4	3.0	3.0	960.0	21.43	36.39	18.77	NO
600.	9.154	4	2.5	2.5	800.0	24.38	43.01	21.80	NO
700.	8.314	4	2.0	2.0	640.0	28.80	49.59	24.85	NO
800.	7.535	4	2.0	2.0	640.0	28.80	55.93	27.52	NO
900.	6.963	4	1.5	1.5	480.0	36.16	62.45	30.64	NO
1000.	6.482	4	1.5	1.5	480.0	36.16	68.64	33.18	NO
1100.	5.991	4	1.5	1.5	480.0	36.16	74.79	35.15	NO
1200.	5.541	4	1.5	1.5	480.0	36.16	80.88	37.06	NO
1300.	5.132	4	1.5	1.5	480.0	36.16	86.93	38.92	NO
1400.	5.196	6	1.0	1.0	10000.0	40.73	47.06	19.81	NO
1500.	5.425	6	1.0	1.0	10000.0	40.73	49.98	20.48	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
 75. 31.12 4 20.0 20.0 6400.0 5.25 6.38 3.71 NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 * SUMMARY OF TERRAIN HEIGHTS ENTERED FOR *
 * SIMPLE ELEVATED TERRAIN PROCEDURE *

TERRAIN HT (M)	DISTANCE RANGE (M)	
	MINIMUM	MAXIMUM
0.	1.	1500.

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	31.12	75.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
